



SANYO Semiconductors

# DATA SHEET

## PCP1103 — PNP Epitaxial Planar Silicon Transistor DC / DC Converter Applications

### Applications

- DC / DC converters, relay drivers, lamp drivers, motor drivers, IGBT gate drivers.

### Features

- Adoption of MBIT process.
- High current capacitance.
- Low collector-to-emitter saturation voltage.
- High speed switching.
- High allowable power dissipation.
- Halogen free compliance.

### Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V <sub>CBO</sub>		-30	V
Collector-to-Emitter Voltage	V <sub>CEO</sub>		-30	V
Emitter-to-Base Voltage	V <sub>EBO</sub>		-5	V
Collector Current	I <sub>C</sub>		-1.5	A
Collector Current (Pulse)	I <sub>CP</sub>		-5	A
Base Current	I <sub>B</sub>		-300	mA
Collector Dissipation	P <sub>C</sub>	When mounted on ceramic substrate (450mm <sup>2</sup> ×0.8mm)	1.3	W
		T <sub>C</sub> =25°C	3.5	W
Junction Temperature	T <sub>J</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

Marking : RF

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# PCP1103

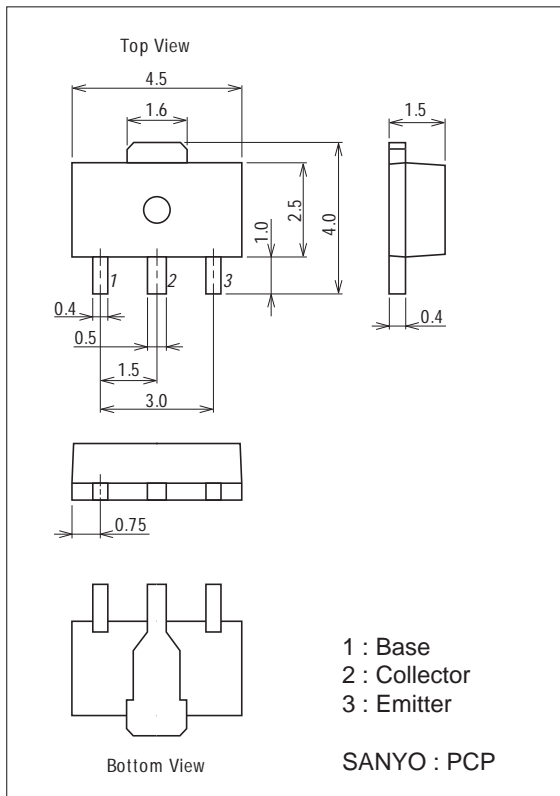
## Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = -30V, I_E = 0A$			-0.1	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB} = -4V, I_C = 0A$			-0.1	$\mu A$
DC Current Gain	$h_{FE}$	$V_{CE} = -2V, I_C = -100mA$	200		560	
Gain-Bandwidth Product	$f_T$	$V_{CE} = -10V, I_C = -300mA$		450		MHz
Output Capacitance	$C_{ob}$	$V_{CB} = -10V, f = 1MHz$		9		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -0.75A, I_B = -15mA$		-250	-375	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -0.75A, I_B = -15mA$		-0.85	-1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0A$	-30			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1mA, R_{BE} = \infty$	-30			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0A$	-5			V
Turn-On Time	$t_{on}$	See specified Test Circuit.		35		ns
Storage Time	$t_{stg}$	See specified Test Circuit.		115		ns
Fall Time	$t_f$	See specified Test Circuit.		30		ns

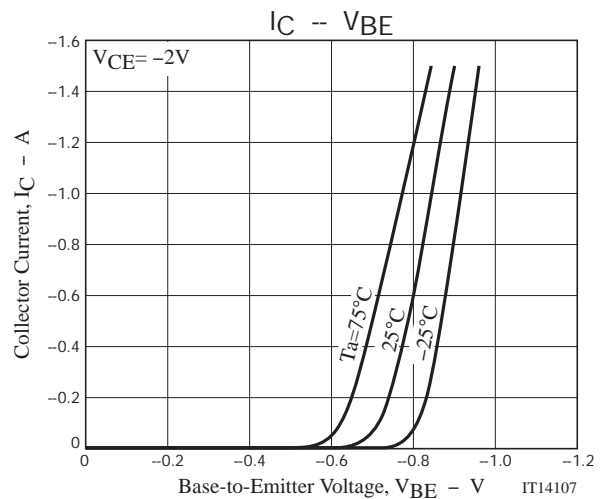
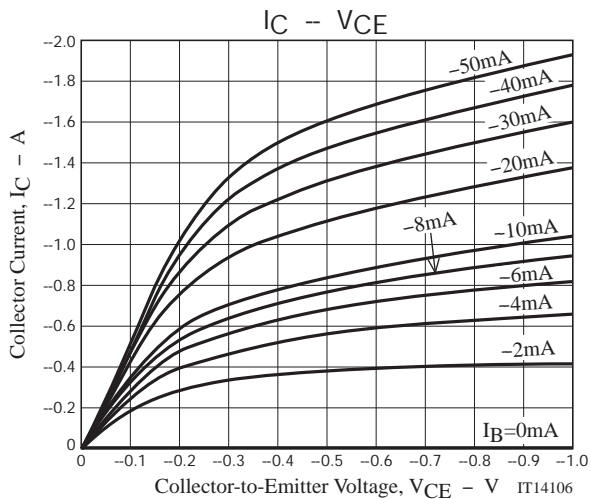
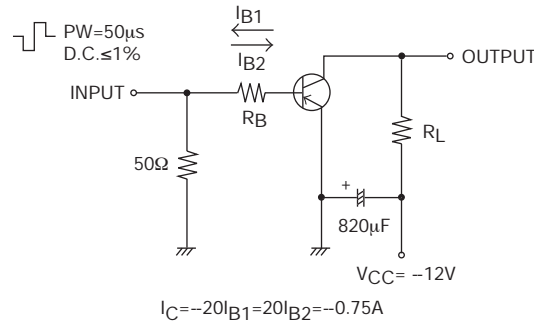
## Package Dimensions

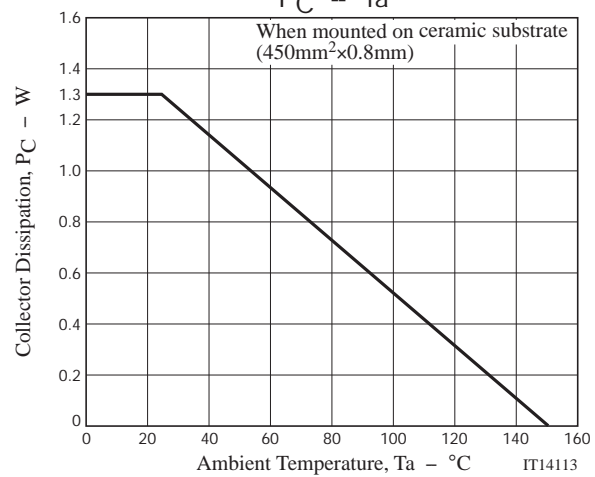
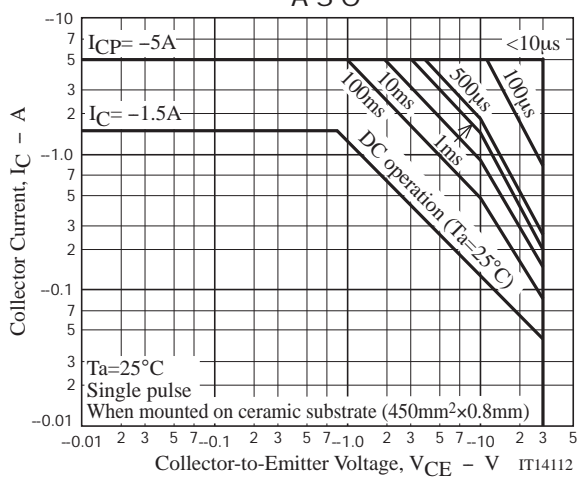
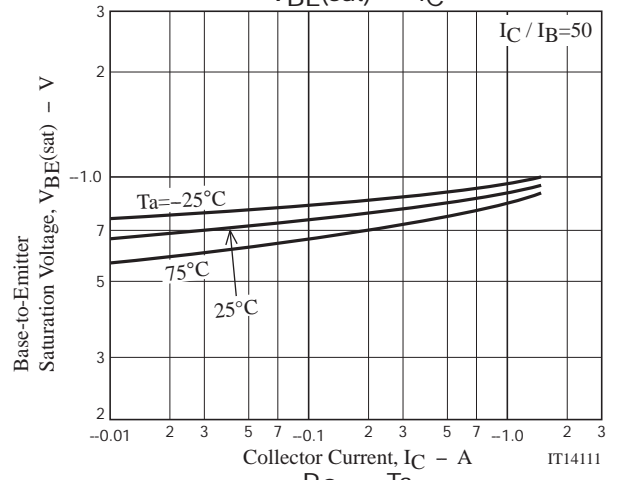
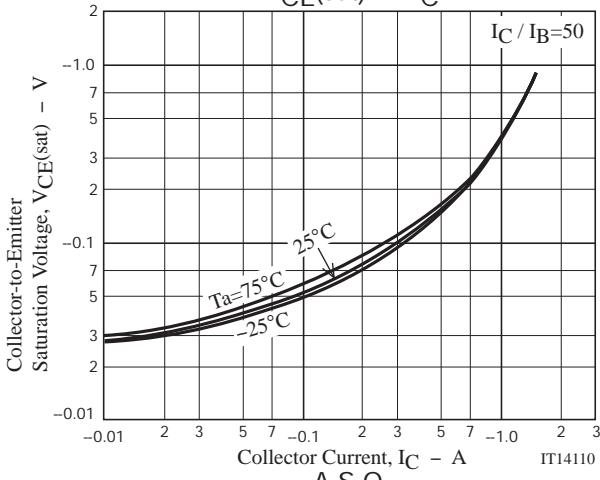
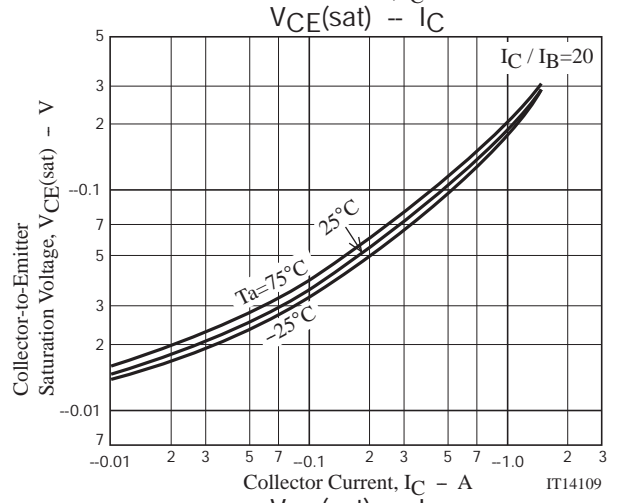
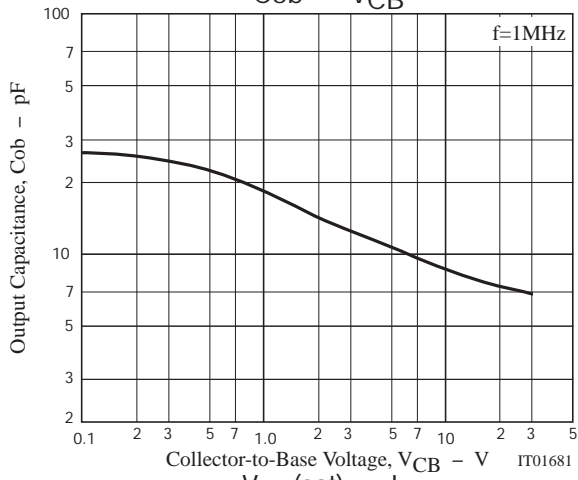
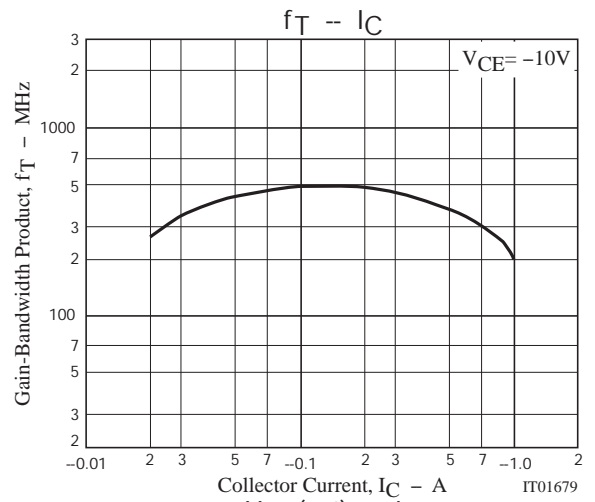
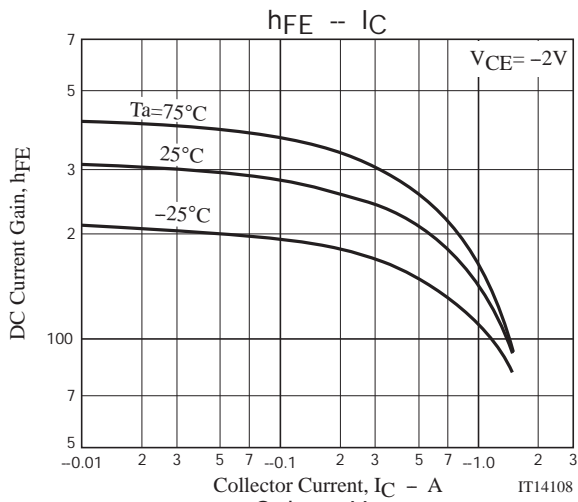
unit : mm (typ)

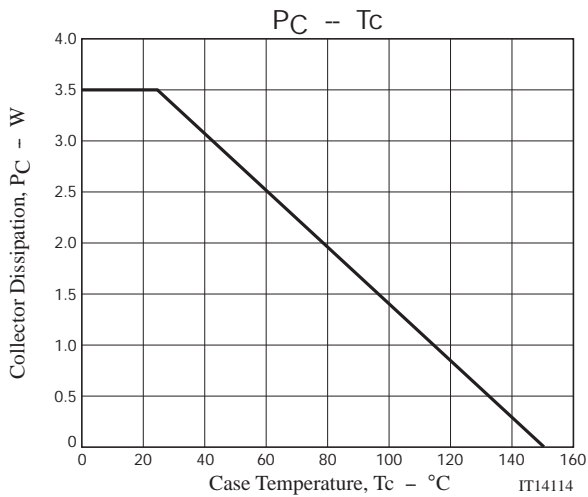
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## Switching Time Test Circuit







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